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Academic Reading Practice Test 56

Reading Passage 1

Reading Passage 1 has seven paragraphs A-G. Choose the correct heading for paragraphs B-E and G from the list of headings below. Write the correct member (i-x) in boxes 1—5 on your answer sheet.

List of Headings

i.	The problem of dealing with emergencies in space
ii.	How space biomedicine can help patients on Earth
iii.	Why accidents are so common in outer space
iv.	What is space biomedicine?
v.	The psychological problems of astronauts
vi.	Conducting space biomedical research on Earth
vii.	The internal damage caused to the human body by space travel
viii.	How space biomedicine First began
ix.	The visible effects of space travel on the human body
x.	Why space biomedicine is now necessary

Example Paragraph A **Answer iv**

1. **Paragraph B**
2. **Paragraph C**
3. **Paragraph D**
4. **Paragraph E**

Example Paragraph F **Answer ii**

5. **Paragraph G**

SPACE TRAVEL AND HEALTH

A. **Space biomedicine is a relatively new area of research both in the USA and in Europe. Its main objectives are to study the effects of space travel on the human body, identifying the most critical medical problems and finding solutions to those problems. Space biomedicine centres are receiving increasing direct support from NASA and/or the European Space Agency (ESA).**

B. **This involvement of NASA and the ESA reflects growing concern that the feasibility of travel to other planets, and beyond, is no longer limited by engineering constraints but by what the human body can actually withstand. The discovery of ice on Mars, for instance, means that there is now no necessity to design and develop a spacecraft large and powerful enough to transport the vast amounts of water needed to sustain the crew throughout journeys that may last many years. Without the necessary protection and medical treatment, however, their bodies would be devastated by the unremittingly hostile environment of space.**

C. **The most obvious physical changes undergone by people in zero gravity are essentially harmless; in some cases they are even amusing. The blood and other fluids are no longer dragged down towards the feet by the gravity of Earth, so they accumulate higher up in the body, creating what is sometimes called ‘fat face`, together with the contrasting 'chicken legs’ syndrome as the lower limbs become thinner.**

D. **Much more serious are the unseen consequences after months or years in space. With no gravity, there is less need for a sturdy skeleton to support the body, with the result that the bones weaken, releasing calcium into the bloodstream. This extra calcium can overload the kidneys, leading ultimately to renal failure. Muscles too lose strength through lack of use. The heart becomes smaller, losing the power to pump oxygenated blood to all parts of the body, while the lungs lose the capacity to breathe fully. The digestive system becomes less efficient, a weakened immune system is increasingly unable to prevent diseases and the high levels of solar and cosmic radiation can cause various forms of cancer.**

E. **To make matters worse, a wide range of medical difficulties can arise in the case of an accident or serious illness when the patient is millions of kilometres from Earth. There is simply not enough room available inside a space vehicle to include all the equipment from a hospital’s casualty unit, some of which would not work properly in space anyway. Even basic things such as a drip**

depend on gravity to function, while standard resuscitation techniques become ineffective if sufficient weight cannot be applied. The only solution seems to be to create extremely small medical tools and 'smart` devices that can, for example, diagnose and treat internal injuries using ultrasound. The cost of designing and producing this kind of equipment is bound to be, well, astronomical.

F. Such considerations have led some to question the ethics of investing huge sums of money to help a handful of people who, after all, are willingly risking their own health in outer space, when so much needs to be done a lot closer to home. It is now clear, however, that every problem of space travel has a parallel problem on Earth that will benefit from the knowledge gained and the skills developed from space biomedical research. For instance, the very difficulty of treating astronauts in space has led to rapid progress in the field of telemedicine, which in turn has brought about developments that enable surgeons to communicate with patients in inaccessible parts of the world. To take another example, systems invented to sterilize waste water on board spacecraft could be used by emergency teams to filter contaminated water at the scene of natural disasters such as floods and earthquakes. In the same way, miniature monitoring equipment, developed to save weight in space capsules, will eventually become tiny monitors that patients on Earth can wear without discomfort wherever they go.

G. Nevertheless, there is still one major obstacle to carrying out studies into the effects of space travel: how to do so without going to the enormous expense of actually working in space. To simulate conditions in zero gravity, one tried and tested method is to work under water, but the space biomedicine centres are also looking at other ideas. In one experiment, researchers study the weakening of bones that results from prolonged inactivity. This would involve volunteers staying in bed for three months, but the centre concerned is confident there should be no great difficulty in finding people willing to spend twelve weeks lying down.All in the name of science, of course.

Questions 6 and 7

Answer the questions below using NO MORE THAN THREE WORDS for each answer.

6. **Where, apart from Earth, can space travelers find water? .....**
7. **What happens to human legs during space travel? .....**

Questions 8-12

Do the following statements agree with the writer's views in Reading Passage 1? Write

YES if the statement agrees with the views of the writer
NO if the statement does not agree with the views of the writer
NOT GIVEN if there is no information about this in the passage

8. **The obstacles to going far into space are now medical, not technological.**
9. **Astronauts cannot survive more than two years in space.**
10. **It is morally wrong to spend so much money on space biomedicine.**
11. **Some kinds of surgery are more successful when performed in space.**
12. **Space biomedical research can only be done in space.**

Questions 13-14

Complete the table below. Choose NO MORE THAN THREE WORDS from the passage for each answer

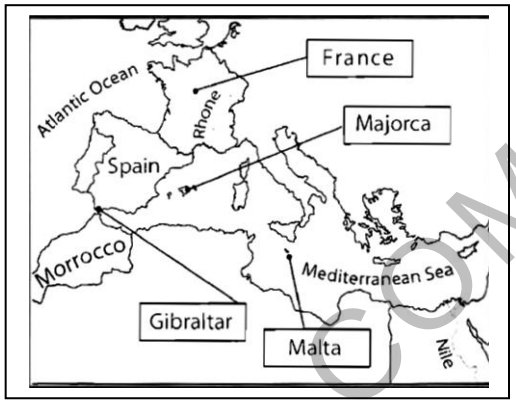
Research area	Application in space	Application on Earth
Telemedicine	treating astronauts	13 ..... in remote areas
Sterilization	sterilizing waste water	14 .....in disaster zones
Miniaturization	saving weight	wearing small monitors comfortably

Passage 2

VANISHED

Who pulled the plug on the Mediterranean? And could it happen again?

By Douglas Mclnrris



Cannes. Monte Carlo. St Tropez. Magic names all. And much of the enchantment comes from the deep blue water that laps their shores. But what if somebody pulled the plug? Suppose the Mediterranean Sea were to vanish, leaving behind an expanse of salt desert the size of India. Hard to imagine? It happened.

'It would have looked like Death Valley,' says Bill Ryan, from the Lamont-Doherty Earth in Observatory in New York, one of the leaders of the team that discovered the Mediterranean had once dried up, then refilled in a deluge of Biblical proportions. Between five and six million years ago, the great desiccation touched off what scientists call the Messinian Salinity Crisis - a global chemical imbalance that triggered a wrenching series of extinctions and plunged the Earth into an ice age.

The first indications of some extraordinary past events came in the 1960s, when geologists discovered that major rivers flowing into the Mediterranean had eroded deep canyons in the rock at the bottom of the sea. River erosion of bedrock cannot occur below sea level, yet somehow the River Rhone in the South of France had managed to create a channel 1000 metres deep in the sea floor, while the Nile had cut nearly 1500 metres into the rock off the North African coast. There was more: despite the fact that the formation of caves can only take place above water, scientists so discovered a whole network beneath the island of Malta that reached an astonishing depth of 2000 metres below sea level.

Further evidence came to light in 1970, when an international team chugged across the Mediterranean in a drilling ship to study the sea floor near the Spanish island of Majorca. Strange things started turning up in core samples: layers of microscopic plants and soil sandwiched between beds of salt more than two kilometres below today's sea level. The plants had grown in sunlight. Also discovered inside the rock were fossilized shallow-water shellfish, together with salt and silt: particles of sand and mud that had once been carried by river water. Could the sea floor once have been near a shoreline?

That question led Ryan and his fellow team leader, Kenneth Hsu, to piece together a staggering chain of events, About 5.8 million years ago, they concluded, the Mediterranean was gradually cut off from the Atlantic Ocean when continental drift pinned Morocco against Spain. As the opening became both narrower and shallower, the deep outward flow from sea to ocean was progressively cutoff, leaving only the shallow inward flow of ocean water into the Mediterranean. As this water evaporated, the sea became more saline and creatures that couldn't handle the rising salt content perished. 'The sea's interior was dead as a door nail, except for bacteria,' says Ryan. When the shallow opening at Gibraltar finally closed completely, the Mediterranean, with only rivers to feed it, dried up and died.

Meanwhile, the evaporated water was falling back to Earth as rain. When the fresh water reached the oceans, it made them less saline. With less salt in it to act as an antifreeze, parts of the ocean that would not normally freeze began to turn to ice. 'The ice reflects sunlight into space,' says Ryan. 'The planet cools. You drive yourself into an ice age?

Eventually; a small breach in the Gibraltar dam sent the process into reverse. Ocean water cut a tiny channel to the Mediterranean. As the gap enlarged, the water flowed faster and faster; until the torrent ripped through the emerging Straits of Gibraltar at more than 100 knots. *The Gibraltar Falls were 100 times bigger than Victoria Falls and a thousand times grander than Niagara,' Hsu wrote in his book The Mediterranean was a Desert (Princeton University Press, 1983).

In the end the rising waters of the vast inland sea drowned the falls and warm water began to escape to the Atlantic, reheating the oceans and the planet. The salinity crisis ended about 5.4

million years ago. It had lasted roughly 400,000 years. Subsequent drilling expeditions have added a few wrinkles to Ryan and Hsu's scenario. For example, researchers have found salt deposits more than two kilometres thick — so thick, some believe, that the Mediterranean must have dried up and refilled many times. But those are just geological details. For tourists the crucial question is, could it happen again? Should Malaga start stockpiling dynamite?

Not yet, says Ryan. If continental drift does reseal the Mediterranean, it won't be for several million years. 'Some future creatures may face the issue of how to respond to nature's closure. It's not something our species has to worry about.'

Questions 15-19 Complete the summary below. Choose NO MORE THAN THREE WORDS from the passage for each answer.

The 1960s discovery of 15 ..... in the bedrock of the Mediterranean, as well as deep caves beneath Malta, suggested something strange had happened in the region, as these features must have been formed 16 ..... sea level. Subsequent examination of the l7 ……..... off Majorca provided more proof. Rock samples from 2000 metres down contained both vegetation and 18 ..... that could not have lived in deep water, as well as l9 ..... originally transported by river.

Questions 20-22 Complete each of the following statements with the best ending from the box

20. The extra ice did not absorb the heat from the sun, so ……..
21. The speed of the water from the Atlantic increased as ……..
22. The Earth and its oceans became warmer when ……

A. Africa and Europe crashed into each other.
B. water started flowing from the Mediterranean.
C. the sea was cut off from the ocean.
D. all the fish and plant life in the Mediterranean died.
E. the Earth started to become colder.
F. the channel grew bigger, creating the waterfalls.
G. all the ice on earth melted.

Questions 23-27 Choose the appropriate letters A, B, C or D.

23. What, according to Ryan and Hsu, happened about 5.8 million years ago?
- **A. Movement of the continents suddenly closed the Straits of Gibraltar.**
- **B. The water level of the Atlantic Ocean gradually fell.**
- **C. The flow of water into the Mediterranean was immediately cut off.**
- **D. Water stopped flowing from the Mediterranean to the Atlantic.**

24. Why did most of the animal and plant life in the Mediterranean die?
- **A. The water became too salty.**
- **B. There was such a lot of bacteria in the water**
- **C. The rivers did not provide salt water.**
- **D. The sea became a desert.**

25. According to the text, the events at Gibraltar led to
- **A. a permanent cooling of the Earth.**
- **B. the beginning and the end of an ice age.**
- **C. the formation of waterfalls elsewhere in the world.**
- **D. a lack of salt in the oceans that continues to this day.**

26. More recent studies show that
- **A. Ryan and Hsu's theory was correct in every detail.**
- **B. the Mediterranean was never cut off from the Atlantic.**
- **C. it may have been cut off more than once.**
- **D. it might once have been a freshwater lake.**

27. At the end of the article, Ryan suggests that
- **A. the Mediterranean will never dry up again.**
- **B. humans will have the technology to prevent it drying up again.**
- **C. the Mediterranean is certain to dry up again one day**
- **D. humans will never see the Mediterranean dry up,**

PASSAGE 3

DOGS – A LOVE STORY

A. Genetic studies show that dogs evolved from wolves and remain as similar to the creatures from which they came as humans with different physical characteristics are to each Other, which is to say not much different at all. 'Even in the most changeable mitochondrial DNA markers — DNA handed down on the mother's side — dogs and wolves differ by not much more than one per cent,' says Robert Wayne, a geneticist at the University of California at Los Angeles.

B. Wolf-like species go back one to two million years, says Wayne, whose genetic work suggests dogs of some sort began breaking away about 100,000 years ago. Wolf and early human fossils have been found close together from as far back as 400,000 years ago, but dog and human fossils date back only about 14,000 years, all of which puts wolves and/or dogs in the company of man or his progenitors before the development of farming and permanent human settlements, at a time when both species survived on what they could scratch out hunting or scavenging.

C. Why would these competitors cooperate? The answer probably lies in the similar social structure and size of wolf packs and early human clans, the compatibility of their hunting objectives and range, and the willingness of humans to accept into camp the most Suppliant wolves, the young or less threatening ones.

D. Certain wolves or protodogs may have worked their way close to the fire ring after smelling something good to eat, then into early human gatherings by proving helpful or unthreatening. As wandering packs of twenty five or thirty wolves and clans of like numbered nomadic humans roamed the landscape in tandem, hunting big game, the animals hung around campsites scavenging leftovers, and the humans might have used the wolves' superior scenting ability and speed to locate and track prospective kills. At night, wolves with their keen senses could warn humans of danger approaching.

E. Times might not have been as hard back then as is commonly thought. In many instances food would have been plentiful, predators few, and the boundaries between humans and wildlife porous. Through those pores slipped smaller or less threatening wolves, which from living in packs where alpha bosses reigned would know the tricks of subservience and could adapt to humans in charge. Puppies in particular would be hard to resist, as they are today. Thus was a union born and a process of domestication began.

F. Over the millennia, admission of certain wolves and protodogs into human camps and exclusion of larger, more threatening ones led to the development of people-friendly breeds distinguishable from wolves by size, shape, coat, ears and markings. Dogs were generally smaller than wolves, their snouts proportionally reduced. They would assist in the hunt, clean up camp by eating garbage, warn of danger, keep humans warm, and serve as food. Native Americans among others ate puppies, and in some societies it remains accepted practice.

G. By the fourth millennium BC Egyptian rock and pottery drawings show dogs being put to work by men. Then, as now, the relationship was not without drawbacks. Feral dogs roamed city streets, stealing food from people returning from market. Despite their penchant for misbehaviour, and sometime because of it, dogs keep turning up at all the important junctures in human history.

H. In ancient Greece, 350 years before Christ, Aristotle described three types of domesticated dogs, including speedy Laconians used by the rich to chase and kill rabbits and deer. Three hundred years later, Roman warriors trained large dogs for battle. The brutes could knock an armed man from his horse and dismember him.

I. In seventeenth-century England, dogs still worked, pulling carts, sleds, and ploughs, herding livestock, or working as turn-spits, powering wheels that turned beef and venison over open fires. But working dogs were not much loved and were usually hanged or drowned when they got old. 'Unnecessary' dogs meanwhile gained status among English royalty. King James I was said to love his dogs more than his subjects. Charles II was famous for playing with his dog at Council table, and his brother lames had dogs at sea in 1682 when his ship was caught in a storm. As sailors drowned, he allegedly cried out, 'Save the dogs and Colonel Churchill?

J. By the late nineteenth century the passion for breeding led to the creation of private registries to protect prized bloodlines. The Kennel Club was formed in England in 1873, and eleven years later the American Kennel Club (AKC) was formed across the Atlantic. 'today the AKC registers 150 breeds, the Kennel Club lists 196, and the Europe—based Fédération Cynologique Internationale

recognizes many more. Dog shows sprouted in the mid- 1800s when unnecessary dogs began vastly to outnumber working ones, as they do to this day. Unless, that is, you count companionship as a job.

Questions 28-31

Reading Passage 3 has ten paragraphs labeled A-I. Write the correct letters A-I in boxes 28-31 on your answer sheet.

28. **Which paragraph explains how dogs became different in appearance from wolves?**
29. **Which paragraph describes the classification of dogs into many different types?**
30. **Which paragraph states the basic similarity between wolves and dogs?**
31. **Which paragraph gives examples of greater human concern for animals than for people?**

Questions 32-35 .

Which FOUR of the following statements are made in the text? Choose FOUR letters from A—H and write them in boxes 32-35 on your answer sheet.

A. **In a typical camp there were many more wolves than humans.**
B. **Neither the wolves nor the humans lived in one place for long.**
C. **Some wolves learned to obey human leaders,**
D. **Humans chose the most dangerous wolves to help them hunt.**
E. **There was very little for early humans to eat.**
F. **Wolves got food from early humans.**
G. **Wolves started living with humans when agriculture began.**
H. **Early humans especially liked very young wolves.**

Questions 36-40

From the information in the text, indicate who used dogs in the ways listed below. Write the correct letters A—F in boxes 36—40 on your answer sheet. NB You may use any letter more than once.

Used by

A. **the Greeks**
B. **the French**
C. **the Egyptians**
D. **the Romans**
E. **the English**
F. **the Native Americans**

36. **in war**
37. **as a source of energy**
38. **as food**
39. **to hunt other animals**
40. **to work with farm animals**